TALENTO TECH

TIC

ENGLISH CODE ARTIFICIAL INTELLIGENCE

INTEGRATOR- Module 1

Unit 4

Universidad Tecnológica de Pereira

faceIT

Contextualization of my learning

In this Integrator module, students will delve into Natural Language Processing (NLP), and its applications to enrich AI-related reading, and writing skills. The focus includes understanding challenges like ambiguity and bias in NLP, and building a robust vocabulary with terms such as tokenization and part-of-speech tagging. Exploring deep learning in NLP, students will grasp concepts like word embeddings and recurrent neural networks. By the end of the course, they'll adeptly navigate the lexicon associated with neural network architectures, and layers in language processing, ensuring a comprehensive understanding of NLP within the AI context.

General objective

- Develop a comprehensive understanding of Natural Language Processing (NLP) and its key components, with a focus on deep learning and word embeddings.

- Linguistic competence.
- Pragmatic competence.
- Sociolinguistic competence.
- Topical Competence.

- **Linguistic Competence:** Enhance vocabulary and language skills related to Artificial Intelligence (AI) and Natural Language Processing (NLP), including the ability to understand and use technical terms, idioms, and expressions in written and spoken contexts.
- **Pragmatic Competence:** Develop the ability to apply theoretical knowledge about AI and NLP in practical language use, such as discussing real-world applications, engaging in conversations about technological advancements, and expressing opinions on the ethical implications of AI.
- **Sociolinguistic Competence:** Acquire the skills to navigate social and cultural aspects related to AI and NLP, including understanding how language is used in different social contexts, recognizing the impact of technology on society, and discussing the broader implications of AI in various cultural and ethical contexts.
- **Topical Competence:** Attain a deep understanding of the key topics covered in the lesson, specifically focusing on NLP, deep learning, word embeddings, and their applications. Students should be able to discuss these topics coherently, analyze related readings, and demonstrate knowledge of the current trends and challenges in the field of AI and NLP.

Unit 4. Terminology related to deep learning in the context of NLP, including word embeddings and recurrent neural networks

Execution time: 4 hours

APPROACH OF THE SESSION

1) Socialize the technology idiom of the day.

2) Key vocabulary reading activity #1.

3) Reading comprehension activity: "What Is Deep Learning? A Guide to Deep Learning Use Cases, Applications, and Benefits"

4) Antonym activity.

5) Multiple choice activity.

6) Pre-reading #2: Socialize keywords

7) Reading: "Word Embeddings in NLP"

8) Gap fill activity about the previous reading.

9) Pre-reading #3 vocabulary activity.

10) Reading comprehension #3: "Word Embeddings in NLP and its Applications"

11) Matching heading activity

- **Reading:** "What Is Deep Learning? A Guide to Deep Learning Use Cases, Applications, and Benefits" https://clear.ml/blog/what-is-deep-learning
- **Reading:** "Word Embeddings in NLP" https://www.turing.com/kb/guide-on-word-embeddings-in-nlp
- **Reading:** "Word Embeddings in NLP and its Applications" https://www.kdnuggets.com/2019/02/word-embeddings-nlp-applications.html